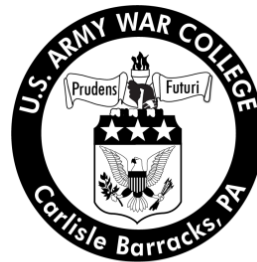


## Sustaining Equipment and the Rapid Acquisition Process: The Forgotten Phase

by

Colonel Anthony K. Whitson  
United States Army



United States Army War College  
Class of 2012

DISTRIBUTION STATEMENT: A

Approved for Public Release  
Distribution is Unlimited

This manuscript is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. <b>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</b>					
1. REPORT DATE (DD-MM-YYYY) 2012		2. REPORT TYPE Strategy Research Project		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE  Sustaining Equipment and the Rapid Acquisition Process: The Forgotten Phase				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)  Colonel Anthony K. Whitson				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)  Professor Michael A. Marra				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army War College 122 Forbes Avenue Carlisle, PA 17013				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT  Distribution: A					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT <p>The ability to integrate the acquisition process with sustainment operations during major combat operations (MCO) over the last 10 years in Iraq and Afghanistan fell short of requirements and expectations. To enable the rapid fielding of critical pieces of equipment to the warfighter, the joint force will require advance design planning, continuous monitoring, and more importantly, a system in place well prior to our next MCO. The intent of this paper is to identify sustainment phase shortfalls in the acquisition process during Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) as it relates to equipment fielding during combat operations. The United States Army's senior leader's focus during both OEF and OIF, was, rightfully so, on warfighter needs, technological opportunities, Pre-Systems Acquisition, Systems Acquisition, and not on sustainment, operations, or support. This paper will expound on the current Department of Defense (DoD) sustainment systems available, the agents responsible within the Army's defense acquisition process and consider options available to ensure we design and implement the right policy, strategy, and sustainment concepts before the next conflict.</p>					
15. SUBJECT TERMS Life Cycle Management, Total Life Cycle Systems Management, Performance Based Logistics, Program Managers, Acquisition Sustainment System					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code)
			UNLIMITED	26	



USAWC STRATEGY RESEARCH PROJECT

**SUSTAINING EQUIPMENT AND THE RAPID ACQUISITION PROCESS: THE  
FORGOTTEN PHASE**

by

Colonel Anthony K. Whitson  
United States Army

Professor Michael A. Marra  
Project Adviser

This SRP is submitted in partial fulfillment of the requirements of the Master of Strategic Studies Degree. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, 3624 Market Street, Philadelphia, PA 19104, (215) 662-5606. The Commission on Higher Education is an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

The views expressed in this student academic research paper are those of the author and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.

U.S. Army War College  
CARLISLE BARRACKS, PENNSYLVANIA 17013



## **ABSTRACT**

AUTHOR: Colonel Anthony K. Whitson

TITLE: Sustaining Equipment and the Rapid Acquisition Process: The Forgotten Phase

FORMAT: Strategy Research Project

DATE: 24 February 2012    WORD COUNT: 5303    PAGES: 26

KEY TERMS: Life Cycle Management, Performance Based Logistics, Program Managers, Acquisition Sustainment System

CLASSIFICATION: Unclassified

The ability to integrate the acquisition process with sustainment operations during major combat operations (MCO) over the last 10 years in Iraq and Afghanistan fell short of requirements and expectations. To enable the rapid fielding of critical pieces of equipment to the warfighter, the joint force will require advance design planning, continuous monitoring, and more importantly, a system in place well prior to our next MCO. The intent of this paper is to identify sustainment phase shortfalls in the acquisition process during Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) as it relates to equipment fielding during combat operations. The United States Army's senior leader's focus during both OEF and OIF, was, rightfully so, on warfighter needs, technological opportunities, Pre-Systems Acquisition, Systems Acquisition, and not on sustainment, operations, or support. This paper will expound on the current Department of Defense (DoD) sustainment systems available, the agents responsible within the Army's defense acquisition process and consider options available to ensure we design and implement the right policy, strategy, and sustainment concepts before the next conflict.





## SUSTAINING EQUIPMENT AND THE RAPID ACQUISITION PROCESS:

### THE FORGOTTEN PHASE

We must value innovation even more than we have in the past. Our forces have expanded many of our previously low-density capabilities and fielded many new technologies...our units have combined these capabilities in innovative ways to the great benefit of the mission, our troops, and non-combatants on the battlefield.

—General Martin E. Dempsey  
Chairman, Joints Chiefs of Staff

A nation's ability to acquire, field, project, and sustain her military sets the foundation of success in any national strategy. During Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) the amount, and pace, of equipment that arrived in both theaters was impressive and ensured that our troops on the ground had what they needed to prosecute the extremely complex counterinsurgency (COIN) conflict. The art and science of synchronizing a nation's resources, values, interests, abilities, and capabilities into a resilient and adaptive logistical system to sustain her military forces over time, has historically been a critical factor in success on the battlefield, and in a larger sense, in war.

One of the United State's comparative and asymmetrical advantages over our enemies and challengers is our material might and our ability to expedite our current acquisition systems. This has always played a decisive factor in implementing our Defense and Military Strategy. Over the 10 years our Army spent billions of dollars to procure equipment and materiel at a quicker pace at the expense of the ability to sustain the capability during Major Combat Operations (MCO). In many cases, the process turned out to be a replacement program during the sustainment phase vice

repairing the equipment utilizing the mandated Life Cycle Management Process which integrates sustainment into the acquisition process.

It has been said by former Secretary of Defense (SECDEF) Donald Rumsfeld that “...you go to war with the Army you have,” but that in no way implies that you have to be content with it throughout that conflict. Realistically, any Army must immediately start adapting to the new environment, regardless of how much planning and purchasing was done beforehand, as the enemy is constantly adjusting to challenges and opportunities as well. In fact, the nation who adapts the fastest usually wins. The United States has historically been both exceptional and deplorable at this ability to be flexible and agile enough to keep pace with the changing environments of warfare, especially in the opening phases, where confusion and fog reigns.

Although there are several issues with the Pre-Systems and Systems Acquisition phases within the current rapid acquisition process, the sustainment phase continues to receive minimum emphases especially during MCO. The purpose of this paper is to explain how the US Army should adapt a peacetime acquisition sustainment strategy based on efficiency, to a wartime process based on battlefield effectiveness. Clearly, there must be a balance between the innovative requirements of the deployed force, with the fiscally constrained and legally bound confines of the Institutional Army. Both seek the same Ends, but the Ways and Means may differ significantly, resulting in a myriad of issues that create more friction than light on the matter. More specifically, the Army must strongly consider the critical aspect of sustainability of any rapidly fielded equipment it acquires so the warfighter is confident in that system’s consistent operation in a contested, costly and competitive environment. On October 7, 2011, the Acting

Under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)) stated “My first priority is supporting forces who are engaged in Overseas Contingency Operations. Rapid acquisition to meet urgent needs, timely and reliable logistics support, effective contingency contracting, and more efficient operational energy solutions are areas we will continue to emphasize as we support our Warfighters.<sup>1</sup> It is not enough to have exquisite technological solutions to problems – those solutions must be able to be kept operational, and one that takes a systematic approach based on design, planning, and experience.

To establish a baseline understanding of the problem, this paper will first provide an overview of the Department of Defense’s (DoD’s) Acquisition process, and define the process with an emphasis on Phase V, sustainment. It will then look at the current logistics supportability planning and procedures available within the Army Acquisition process to ensure the sustainment phase is part of the process, to include the role of Total Life Cycle Systems Management (TLCSM), Performance Based Logistics (PBL) and the responsibilities of the Program Managers (PMs), the Army G4, and the Army Materiel Command (AMC). The paper will provide an overview of the Mine-Resistant Ambush-Protected (MRAP) vehicle as an example of a recent fielding in OEF that failed to properly utilize a viable sustainment system to maintain the operational rate at the Department of the Army (DA) standard of 90 percent. Lastly, the paper will provide three recommendations that the sustainment and acquisition community should consider prior to our next MCO.

#### DoD Acquisition Overview

According to the Department of Defense Directive (DODD) 5000.01, an acquisition program is defined as a directed, funded effort that is designed to provide a

new or improved material capability in response to a validated need.<sup>2</sup> To further understand the process we should understand and define what “Acquisition” is or what it is not. It is the process of designing, engineering, constructing, testing, deploying, sustaining, and disposing of a military product, whereas “procurement” only encompasses the purchase of a good or service.<sup>3</sup> One must remember that the U.S. Congress will influence the defense acquisition system through the annual National Defense Authorization Acts. Three sets of government regulations dictate DoD’s procurement functions: The Federal Acquisition Regulation (FAR), the Defense Federal Acquisition Regulation Supplement (DFARS), and FAR supplements for each DoD service Component.<sup>4</sup>

The U.S. DoD acquisition system is constructed of three processes; the Joint Capabilities Integration and Development System (JCIDS), the Planning, Programming, Budgeting, and Execution System (PPBE), and the Defense Acquisition System (DAS). The JCIDS process, which was created in 2003, is the process by which the department identifies, evaluates, and prioritizes the capabilities needed to meet mission goals and reduce threats. In essence, the JCIDS process is the requirement derivation process. The PPBE has four stages which develop budgets for all acquisitions and allocate resources. If done correctly, through the DAS process, an affordable capability is designed, developed, and deployed to the warfighter within the budget, cost, and performance targets.<sup>5</sup>

The Defense Acquisition Management Framework, which is in essence the defense acquisition lifecycle, is defined and described by the Department of Defense Instruction (DODI) 5000.02. In the most basic form, the framework is divided into three

phases; pre-acquisition, acquisition, and sustainment. The pre-acquisition phase is comprised of the Material Solution Analysis (MSA) stage and the Technology Development (TD) stage. The acquisition phase includes the Engineering and Manufacturing Development (EMD) stage and the Production and Deployment (PD) stage. Finally, and the stage this author believes is in many cases nothing more than an afterthought, the sustainment phase is constructed from the Operation and Support (O&S) stage.<sup>6</sup> The purpose of the O&S stage is to employ a program that maintains the system over its total lifecycle in a cost-effective manner. This phase initiates during the Material Solution Analysis Phase and should mature throughout the TD phase. The two efforts in this stage include Lifecycle Sustainment and Disposal. Although Lifecycle sustainment involves sustainment engineering, transportation, maintenance, data management, Human Systems Integration (HSI), configuration management, environment, safety, occupational health, and interoperability, it's supportability, reliability, availability, and affordability that are the areas of concern during the rapid fielding of equipment during our most recent conflicts in OEF and OIF.

Over nearly a decade of conflict, the acquisition system has evolved to rapidly provide critical capabilities to warfighters. The term Rapid Acquisition is now a common term and unfortunately, this evolution, although undertaken for the best intentions, was not necessarily coordinated within and amongst the Services and specifically the sustainment community.<sup>7</sup> The problem is over 20 different ad hoc organizations within the Joint Staff, the Office of the Secretary of Defense, and each service utilized a somewhat different version of an "Urgent Need" process.<sup>8</sup> From these various organizations and processes the community has developed as part of wartime

acquisition initiatives which include; the Joint Rapid Acquisition Cell (JRAC), Rapid Equipping Force (REF), Rapid Fielding Initiative (RFI), Warfighter Rapid Acquisition Program, and the capabilities Development for Rapid Transition (CDRT). With all of these efforts or programs starting since 9/11, one begins to understand why the sustainment phase might get overlooked. A conscious decision is made to focus on getting the equipment in the hands of the warfighter and then figure out the sustainment plan in mid-stream during combat operations.

#### Acquisition Sustainment Systems Available

The purpose of the Operations and Support Phase is to execute a support program that meets materiel and operational support performance requirements, and sustains the system in the most cost-effective manner over its total life cycle.<sup>9</sup> Planning for this phase should begin prior to program initiation and shall be documented in the Life Cycle Sustainment Plan (LCSP). Operations and Support have two major efforts, Life-cycle Sustainment and Disposal. For the purpose of this paper we will only cover the Life-cycle Sustainment effort and focus on how sustainment efforts should proceed during rapid acquisition processes. The objective of this activity is the overall execution of a support program during combat operations that meets the warfighters needs in the most cost-effective manner for the entire life cycle of the system.

*Total Life Cycle Systems Management.* In 2003 the DoD, through the Service Acquisition Executive and Joint Logistics Board, initiated an aggressive effort to reengineer the life cycle management of DoD systems to achieve effective performance and optimum readiness while reducing operations and support costs. This initiative is called Total Life Cycle Systems Management (TLCSM). TLCSM, as defined in DoD policy, is the implementation, management, and oversight, by the designated Program

Manager (PM), of all activities associated with any acquisition, development, production, fielding, and sustainment of a DoD weapon system across its life cycle.<sup>10</sup> Although the TLCSM includes all phases of the DoD Acquisition process, the life-cycle sustainment program includes all elements necessary to maintain the readiness and operational capability of deployed systems. The scope of support varies among programs but generally includes supply, maintenance, transportation, sustaining engineering, data management, configuration management, manpower, personnel, training, habitability, survivability, safety, occupational health, protection of critical program information, IT and environmental management functions.<sup>11</sup>

Supporting the tenets of evolutionary and rapid acquisition, sustainment strategies must evolve and be refined throughout the life-cycle, particularly during extended combat operations such as our operations in both the Iraqi and Afghanistan theaters. As stated previously, sustainment costs account for the largest portion of the total life-cycle costs and another critical reason why we should improve the sustainment phase of the process. There have been numerous efforts to improve TLCSM and bring the acquisition and logistics communities together. A memorandum of agreement between the Assistant Secretary of the Army for Acquisition, Logistics, and Technology and the Commanding General of the Army Materiel Command (AMC), formally launched a plan for the two organizations to work together to establish life cycle management commands (LCMCs).<sup>12</sup> The LCMC initiative was designed to help achieve the Army's overarching goal of transforming into a more lethal and agile force that requires a significantly smaller logistics footprint to sustain itself.<sup>13</sup> The intent was to ensure that logisticians in the field knew about these commands and if you have or had

shortfalls with sustainment of a system you go to the LCMC for the answer. These commands were intended to integrate sustainment concerns with the development and acquisition of materiel. The result of the LCMC initiative was to provide a seamless materiel continuum from factory to foxhole, with a leaner but more effective and responsive logistics system.<sup>14</sup> This hasn't happened over the last 6 years since the concept evolved. The dividing line between acquisition and sustainment is ending, and logisticians will become part of an Army that manages materiel and support from an integrated life cycle perspective.<sup>15</sup>

This perspective was recently highlighted by the Army's senior logistician and current commander of AMC, Gen. Ann Dunwoody; "The Army's ability to quickly develop and provide new, state-of-the-art materiel solutions is unsurpassed in meeting Soldiers' requirements and ensuring their safety. Thanks to our innovative and ongoing rapid acquisition and equipping initiatives, we are getting equipment into the hands of Soldiers faster than ever. These systems, which grew out of necessity during the early years of the Global War on Terrorism, provide high-quality equipment quickly; but when executed within insulated stovepipes, they are often very inefficient. By better integrating our research and development, acquisition, and logistics communities, we will more effectively and efficiently meet immediate needs in the field now and in the future, with efficient distribution and sustainment planned and resourced. Historically, we have focused much of our time, talent, and resources on the "first half" of the life cycle - the research, development, testing, acquiring, equipping, and supplying of essential equipment. While incredibly important, that typically only represents 30 percent of a program's budget. We must now renew our focus on the "second half" of



the life cycle - the maintenance, distribution, sustainment, and disposal of equipment. Applying the same rigor and attention to the back end of the lifecycle process will ensure that our systems are more sustainable, cost effective, and efficient throughout their entire life cycles. This ultimately will ensure the best support to the warfighter".<sup>16</sup>

*Performance Based Logistics.* Although a variety of product support strategies are available to all of us, logisticians and PM's, to impact the second half of the life cycle, Performance Based Logistics (PBL) is the preferred DoD strategy. PBL strategies place emphasis on buying outcomes vice segmented logistics support. PBL is defined as a strategy for system product support that employs the purchase of support as an integrated, affordable performance package designed to optimize system readiness.<sup>17</sup> Sounds like a strategy that would work if used and it starts with educating all our senior logisticians at the operational and strategic levels.

Performance Based Logistics was established formally in 2001 as part of the Quadrennial Defense Review Report (QDR) as a means to capture many of the management approaches that are effective within the private sector and also promises to serve as that bridge between system acquisition and logistics.<sup>18</sup> PBL is the essence of and a major contributor to the TLCSM process. Some would argue that PBL sustainment strategies have been used successfully for the last decade although you will be hard pressed to find any examples in the US Army. In today's complex environment and an era of competing priorities, reduced acquisition budgets and scarce resources we must refocus from the traditional transaction based support to PBL. Not only is one of the best ways to optimize the cost of the procurement of systems, it's mandated by DoD. In the past, prior to 2001, the DoD dictated to the contractors what

to produce, when to produce it and the activities that they should carry out. PBL is also a strategic readiness imperative. As a system sustainment strategy, it is an integral mechanism by which all the services seeks to break the stranglehold of the “death spiral”, which former Secretary of Defense for Acquisition, Technology, and Logistics, Dr. Jacques Gansler, warned of in his testimony to Congress earlier this decade. “Our equipment is aging. We cannot replace much of that equipment in the near future. Consequently, our Operations and Maintenance (O&M) costs will continue to escalate. This results in reduced readiness, yet at increasing costs. And, unless we reverse the trend quickly and deliberately, we face what I have described as a “death spiral”, a situation where reduced readiness requires us to keep removing more and more dollars from equipment modernization and putting it into daily O&M, thus further delaying modernization, causing the aging equipment to be over-used, further reducing readiness, and increasing O&M—a vicious circle.”<sup>19</sup>

The real meaning of PBL is the purchase of system sustainment as an integrated, affordable package based on output measures such as weapon system availability, rather than input measures such as parts and technical services. While delivering parts and supplies at the right time and in the correct quantities, buying performance outcomes instead of parts, goods, man hours or services translate into reducing cost, decreasing cycle times, improving performance and predicting demand. So, in the end PBL not only improves the system availability, reduces the cost of sustainment, maintenance, support activities, and more importantly is mandated by DoD. By leveraging long-term performance based agreements and incentivizing desired outcomes using well-crafted set of metrics, PBL can deliver substantial

performance improvements for both new and existing systems over traditional “spares and repairs” sustainment models.<sup>20</sup>

The most important objective for the DoD and all the Service’s acquisition efforts is to enhance the quality in their systems that satisfies warfighter requirements and retains the ability to measure improvements in the time it takes to receive them at a fair cost. It’s easy to see the importance and magnitude of PBL and how we must optimize reliability and maintainability of the system. So what exactly is this thing called PBL in the eyes of the senior logistician? How can understanding the process help the operational or strategic level sustainer? First and foremost it’s about supporting the warfighter. It is about performance and it’s about readiness. It is about enabling mission accomplishment and ensuring the warfighter has systems that are available, reliable, and supportable when and where required.<sup>21</sup> It’s a system support strategy and a DoD policy that directs the PMs to develop and implement performance based logistics strategies that optimize total system availability while maintaining cost and logistics footprint.<sup>22</sup> This will be covered in depth under the “who is responsible” section of this paper.

The logistician should understand that PBL supports strategies that include the best use of public and private sector capabilities through government/industry partnering initiatives. It’s a Win-win-win for the Warfighter, the sustainer, and industry.<sup>23</sup> If properly implemented, with carefully constructed and clearly understood metrics, incentive structure, and contracting strategy, PBL can help PM’s and sustainers throughout the process.<sup>24</sup> The last major point is to understand that using PBL ensures we focus on best value, including, but not necessarily limited to lowest cost.<sup>25</sup> In the

end we will provide the warfighter with what he needs and the lowest cost and that's our mission.

What has happened to date with PBL is inconsistent attempts to implement the strategy and potential setbacks to the overall effort and have tainted the perception of some PMs as to whether PBL can ever be effective. Program Managers interviewed as part of the RAND report scoffed at the notion that PMs had authority for TLCSM. They indicated that TLCSM and more specifically PBL, will not happen as long as the mission is fragmented between disparate commands, and funding is not consolidated under the PM or an accountable manager.<sup>26</sup> TLCSM establishes clear lines of responsibility and accountability for meeting the warfighter support performance and sustainment requirements. It clearly states that the PM is responsible from start to finish including sustaining the system during combat operations. The Army uses the Integrated Logistics Support (ILS) process to implement the mandatory Life-cycle logistics policies and procedures which includes planning, developing, acquiring, and supporting the system throughout its life. It's time to figure out who is responsible and ensure they play in the TLCSM process.

*Key Players-Who's Responsible?* Although the USD (AT&L) is the Defense Acquisition Executive (DAE) and is overall responsible for the supervision of the Defense Acquisition System (DAS) and there is a Milestone Decision Authority (MDA) who is the designated individual with overall responsibility for an acquisition program, they aren't working at the level where the sustainment issues preside. Our focus starts with the Program Managers who work within the DAS and then move to the sustainment

community to include, in the Army's case, the Department of the Army Deputy Chief of Staff, G-4, and the Army Materiel Command (AMC).

The Program Manager is the designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting to the MDA. To ensure success, all acquisition and sustainment strategies must result from a collaborative effort from all parties involved with the PM in the lead at all times. In accordance with DoD directive 5000.1, the PM's are the single point of accountability for accomplishing all program objectives for total life-cycle systems management which also includes the sustainment phase.<sup>27</sup> Newly issued DoD Instruction 5000.02 language reiterates the shift in focus to a performance based life-cycle support product that states the PM's shall work with the user to document performance agreements specifying objective outcomes, measures resource commitments, and stakeholder responsibilities.<sup>28</sup> On 21 March, 2011 the acting Under Secretary of Defense for Acquisition, Technology, and Logistics, Frank Kendall, published a Directive to immediately enhance reliability in the acquisition process and remind our PM's of their current duties. Specifically, it directed all PM's to formulate comprehensive reliability and maintainability (R&M) programs using an appropriate reliability growth strategy to improve R&M performance.<sup>29</sup>

Current DoD Life-cycle Management responsibility lies with the PM and directs the PM to be the single point of accountability for accomplishing program objectives for total life-cycle systems management including sustainment. PMs shall consider supportability, life-cycle costs, performance, and schedule comparable in making

program decisions. Planning for Operation and Support and the estimation of total ownership costs shall begin as early as possible. Supportability, a key component of performance, shall be considered throughout the system life cycle.<sup>30</sup> It's important to understand that the current program management approach that our PMs adhere too within the systems acquisition process is a distinct departure from the Services' traditional practice of establishing functionality oriented organizations to carry out well defined, repetitive, and continuous long-term tasks.<sup>31</sup> This approach requires the PM to establish management arrangements among the PM office, other military organizations, and various contractors to coordinate their efforts and to accomplish program objectives effectively, efficiently, and economically. Has this happened during the last 10 years during combat operations in the sustainment phase of the process? Or, are the PM's overcome by the Systems Acquisition Phases and as a result sustainment synchronization is minimal? As stated in the TLCSM Plan of Action and Milestones, it's time to revise DoD publications 5000.1/2 to provide guidance on and defining the sustainment phase and providing our PMs with specific sustainment guidance during high optempo contingency operations.

The second key player is the Deputy Chief of Staff (DCS), G-4 who for the Army is the Responsible Official for all Sustainment (ROS). The DCS, G-4 integrates and balances between acquisition and logistics the sustainment functions of readiness, supply, services, maintenance, and transportation. Through the integration of logistics supportability, manages the readiness of new systems throughout the acquisition life-cycle as well as current readiness of legacy systems. The DCS, G-4 assesses the logistical supportability of materiel systems during the system acquisition management

process and participates in all phases of the Research, Development, and Acquisition (RDA) management process to ensure equipment is logistically reliable, supportable, and maintainable.<sup>32</sup> As the ROS, to the Army Acquisition Executive (AAE), the DCS, G-4 is assisted by the Deputy ASA (ALT) for Integrated Logistics Support (ILS), who is the DA focal point for a system's ILS program. Together they develop policies for, and oversees, the planning, programming, budgeting, and execution of ILS and more importantly, ensures Program Executive Offices (PMs) have programmed and incorporated supportability requirements into the acquisition and fielding of new systems.<sup>33</sup> The DA logistics support officer (DALSO) is the HQDA representative of the logistics community (G-4), providing logistics coordination. The DALSO monitors the progress of the assigned system and ensures all elements of ILS, as outlined in AR 700-127, Integrated Logistics Support, are satisfactorily completed.<sup>34</sup> Because of the interrelationships of assigned responsibilities in materiel acquisition, close and continuous coordination and cooperation is essential between the DALSO and his counterparts at AMC and with the Army Staff. This leads us to our third responsible partner, AMC.

The mission of Army Materiel Command is to provide superior acquisition, logistics and technology (ALT) support to ensure dominant land force capability for our Soldiers, the United States, our Allies, and coalition partners.<sup>35</sup> The major component of their mission is to provide guidance, development, and acquisition support to PEO's and PMs throughout the system life cycle. For the Army, AMC is the four star command that provides Life-cycle Management (LCM) support for Rapid Acquisition. AMC's support for the PEO/PM community is established through the Life Cycle Management

Commands (LCMCs). The problem is for many of the deployed force and high-profile customers such as REF and the Joint Improvised Explosive Device Defeat Organization (JIEDO), there is a gap in AMC's LCM support. Specifically these customers currently operating in Afghanistan aren't assigned to a specific LCMC and, in fact, their actual needs cross multiple LCMCs. AMC's AL&T capabilities are not involved up front in the sustainment planning for those customers who have immediate requirements, those that are fulfilled in 180 days or less, and not part of the traditional Army acquisition programs. Operation Enduring and Iraqi Freedom have proved there is a need to address sustainment shortfalls of those rapid programs.

Currently in OEF the Army Field Support Brigade (AFSB), which is ultimately responsible for supporting and sustaining the product once in theater, is often not involved in the rapid acquisition process. In many cases, AFSBs don't find out about the new equipment fielding's until they arrive in theater. The lack of coordination and involvement early on by the AFSB and the PEO/PM continues to hinder sustainment early on in the process. AMC needs to be involved in sustainment solutions up front with the ultimate goal to ensure sustainment considerations are integrated into all planning, implementation, management, and oversight activities associated with the acquisition process across the entire life cycle.<sup>36</sup>

#### Mine Resistant Ambush Protected (MRAP) Vehicle: An Example

No acquisition program within DoD has received more public attention over the past few years than the Mine Resistant Ambush Protected (MRAP) vehicle program. It has been lauded as an example of successful rapid acquisition.<sup>37</sup> Although it is undisputed that MRAPs have saved countless lives and overcame the traditional



acquisition process which was the right thing to do in 2007 to get this asset into OEF/OIF, it bears further consideration.

In 2009 the Government Accounting Office (GAO) provided congress with the MRAP operational concerns that included operating, maintaining, and sustaining the fleet of 15,000 fielded vehicles by at least five different vendors.<sup>38</sup> Secretary Gates noted at the time that DoD did not ensure “that the supply line was full before we deployed them”.<sup>39</sup> These comments were made prior to the fielding of over 3,000 M-ATV’s and as GAO reported in July, 2009, DoD is currently “catching up” in terms of acquiring and stockpiling MRAP repair parts.<sup>40</sup> The concern for the future is ensuring that the sustainment costs and procedures are codified within the rapid acquisition process. The lack of funding requests in the budget for sustainment only highlights the lack of programmed dollars to support long term operational and maintenance costs.<sup>41</sup> The rapid acquisition and fielding of the MRAP vehicle, overall, was a success for DoD and the acquisition community. It does not, however, demonstrate a new way for acquisition processes and specifically address how to sustain critical pieces of equipment during combat operations.

### Recommendations

To ensure that the sustainment phase of our current acquisition process is adhered to and executed during any form of a rapid acquisition process, three basic recommendations are proposed:

*Utilize Current Directives and Strategies.* Once we have educated the key players in the process we must validate that they are using the strategies, guidance, and regulations produced for the Total Life-Cycle Systems Management and PBL structures. The directives and procedures were available since the start of OEF and

OIF, yet seldom utilized or understood. We have the right systems available to ensure we execute the sustainment phase properly; we just have to use them and fund them.

A critical element for ensuring there is a flexible sustainment system is dedicated and stable funding stream. This will require Office of the Secretary of Defense (OSD) and congressional support and understanding, especially in a resource constrained environment.<sup>42</sup> Our 2010 Quadrennial Defense Review advances two clear objectives as outlined in the executive summary of the document. The latter objective is to further reform the Department's institutions and processes to better support the urgent needs of the warfighter; buy weapons that are usable, affordable, truly needed and sustainable; and ensure that taxpayer dollars are spent wisely and responsibly. The need to place increased awareness on sustaining our systems was no more evident than in the December 04, 2009 memorandum from the Under Secretary for Defense for AT&L, the Honorable Ashton B. Carter to DoD agencies responsible for acquisition when he stated "Program acquisition strategies shall describe the plan for identifying and/or selecting the source of repair of the major weapon system. Whenever a decision for source of repair results in a plan to award a contract for performance of maintenance and sustainment of a major weapons system...the major policy impact is that it requires more detailed discussion of maintenance and sustainment strategy and associated contracting approaches in the acquisition strategy and/or plan."<sup>43</sup>

*Update Policy.* DoD should consider updating DoDD 5000.01, DoDI 5000.02, the Defense Acquisition Guidebook, and Performance Based Logistics documents.<sup>44</sup> We must document both the successes and failures of our rapid acquisition processes during the last 10 years and use the lessons learned and apply them to these critical

documents. The guidance should include specific tools, resources, and guidance to support PMs in performing their duties, provide guidance on performance agreements, focus on TLCSM, define sustainment phase, provide PM sustainment guidance, and incorporate Service and Office of the Secretary of Defense oversight mechanisms.

*Education.* We must educate our acquisition and logistics workforce from the operational to strategic level to ensure unparalleled knowledge, skills, abilities, creativity, and interdisciplinary insights to achieve desired sustainment outcomes in an increasingly resource-constrained environment. During the next major conflict we won't have the time or the resources to sustain critical systems by merely replacing the entire system. Project Managers and logisticians must first understand, and then execute the key principles of Total Life-Cycle System to include the mandated Performance Based Logistics strategy which is intended to bridge the gap between acquisition and supply chain management. Along with educating our PM's, we should provide them with incentives for meeting or exceeding sustainment goals, and not just focus on exceeding the operational goals or early fielding's.

### Conclusion

The acquisition enterprise has responded extremely well to the rapid acquisition process derived from urgent requirements over the last decade and during combat operations. The ability to restructure the pre-systems acquisition phase and the acquisition phase, are unmatched during any other era or by any other country. The rapid acquisition system saved lives and helped prosecute the mission and that's what we needed at the time. The shortfall was the lack of a more detailed maintenance and sustainment strategy with an associated contracting approach, within the rapid acquisition strategy or plan. The tenants of TLCSM and PBL emphasize an early

emphasis on sustainment within the system life-cycle. It also designates the PM's as the responsible agent for all sustainment actions associated with the system over the span of its life. During OEF and OIF, the PM's were able to field new systems and move on to the next system without a solid sustainment plan and for all the right reasons. In the future we won't have that luxury and the sustainment and acquisition community must work together to ensure we get it right the next time.

## Endnotes

<sup>1</sup> Kendall, Frank, Acting Under Secretary of Defense for Acquisition, Technology and Logistics. "Initial Guidance from the Acting under Secretary of Defense for Acquisition, Technology and Logistics (USD (AT&L))." Memorandum for Acquisition, Technology and Logistics Workforce. Washington, DC, October 7, 2011

<sup>2</sup> Office of the Deputy Secretary of Defense, "Department of Defense Directive 5000.01 – The Defense Acquisition System," May 12, 2003, certified current as of November 20, 2007.

<sup>3</sup> Schwartz, Moshe. Defense Acquisition: How DoD Acquires Weapon Systems and Recent Effort to Reform the Process: Congressional Research Service, 2009.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Office of the under Secretary of Defense for Acquisition, Technology, and Logistics, "Department of Defense Instructions 5000.02 – Operation of the Defense Acquisition System," December 8, 2008.

<sup>7</sup> Rasch, Robert. A, Jr. Lessons Learned from Rapid Acquisition: Better, Faster, Cheaper?. Strategy Research Project. Carlisle Barracks, PA: U.S Army War College, January 12, 2011, 6.

<sup>8</sup> Jacque S. Gansler and Brian Hughes, Defense Science Board Task Force, Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Fulfillment of Urgent Operational Needs," July 2009, 9, <http://www.acq.osd.mil/dsb/reports/ADA503382.pdf> (accessed November 15, 2011).

<sup>9</sup> Office of the under Secretary of Defense for Acquisition, Technology, and Logistics, "Department of Defense Instructions 5000.02 – Operation of the Defense Acquisition System," December 8, 2008.

<sup>10</sup> Office of the under Secretary of Defense for Acquisition, Technology, and Logistics, "Total Life Cycle Systems Management (TLCSM), Plan of Action and Milestones," Updated 6 January 2003.

<sup>11</sup> “How the Army Runs: *A senior Leader Reference Handbook*,” 2009-2010, 239.

<sup>12</sup> Winbush, James O., Rinaldi, Christopher S., Giardina, Antonia R. “Life Cycle Management: Integrating Acquisition and Sustainment.” *Army Logistician* 37.1, (January/February 2005): 2. ProQuest

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid.

<sup>16</sup> Dunwoody, Ann E. “Sustainment Moves to the Next Level: Rethinking our Life-cycle Focus.” *Army Sustainment* 41.5 (Sep/Oct 2009): 3-4. ProQuest

<sup>17</sup> Office of the under Secretary of Defense for Acquisition, Technology, and Logistics, “Total Life Cycle Systems Management (TLCSM), Plan of Action and Milestones,” Updated 6 January 2003.

<sup>18</sup> Dana Hurst, *Performance Based Logistics-A Brigade between Acquisition Reform and Logistics Supply Chain Management*, Strategy Research Project (Carlisle Barracks, PA: U.S. Army War College, March 1, 2006), 1.

<sup>19</sup> Bill Kobren, *What Performance Based Logistics is and What it is Not-And What it Can and Cannot Do* (Defense Acquisition University, October 2009), 256.

<sup>20</sup> Ibid.

<sup>21</sup> Bill Kobren, *What Performance Based Logistics is and What it is Not-And What it Can and Cannot Do* (Defense Acquisition University, October 2009), 257.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

<sup>24</sup> Bill Kobren, *What Performance Based Logistics is and What it is Not-And What it Can and Cannot Do* (Defense Acquisition University, October 2009), 258.

<sup>25</sup> Ibid.

<sup>26</sup> Dana Hurst, *Performance Based Logistics-A Brigade between Acquisition Reform and Logistics Supply Chain Management*, Strategy Research Project (Carlisle Barracks, PA: U.S. Army War College, March 1, 2006), 11.

<sup>27</sup> Systems Acquisition: Acquisition Strategy, [http://www.desktop.osd.mil/dag/Guidebook/IG\\_c2.3.asp](http://www.desktop.osd.mil/dag/Guidebook/IG_c2.3.asp), accessed 29 December, 2011.

<sup>28</sup> Kendall, Frank, Acting Under Secretary of Defense for Acquisition, Technology and Logistics. “Directive-Type Memorandum (DTM) 11-003 – Reliability Analysis, Planning, Tracking, and Reporting”. Washington, DC, March 21, 2011.

<sup>29</sup> Bill Kobren, *What Performance Based Logistics is and What it is Not-And What it Can and Cannot Do* (Defense Acquisition University, October 2009), 262.

<sup>30</sup> Bill Kobren, "Shaping the Life Cycle Logistics Workforce to Achieve Desired Sustainment Outcomes," *Defense AR Journal*, 16 (April 2009): 86.

<sup>31</sup> "How the Army Runs: *A senior Leader Reference Handbook*," 2009-2010, 224.

<sup>32</sup> "How the Army Runs: *A senior Leader Reference Handbook*," 2009-2010, 227.

<sup>33</sup> "How the Army Runs: *A senior Leader Reference Handbook*," 2009-2010, 150.

<sup>34</sup> Ibid.

<sup>35</sup> "How the Army Runs: *A senior Leader Reference Handbook*," 2009-2010, 278.

<sup>36</sup> Bill Kobren, "The Product Support Manager: Achieving Success in Executing Life Cycle Management Responsibilities," *Defense AR Journal*, 17.2 (April 2010): 183.

<sup>37</sup> Robert A. Rasch, *Lessons Learned from Rapid Acquisition: Better, Faster, Cheaper?*, Strategy Research Project (Carlisle Barracks, PA: U.S Army War College, January 12, 2011), 13.

<sup>38</sup> U.S. Government Accountability Office (GAO) Report, Subject: Rapid Acquisition of Mine Resistant Protected Vehicles, July 15, 2008, 4.

<sup>39</sup> Ibid.

<sup>40</sup> Ibid.

<sup>41</sup> Robert A. Rasch, *Lessons Learned from Rapid Acquisition: Better, Faster, Cheaper?*, Strategy Research Project (Carlisle Barracks, PA: U.S Army War College, January 12, 2011), 15.

<sup>42</sup> Timothy D. Chyma, *Rapid Acquisition*, Strategy Research Project (Carlisle Barracks, PA: U.S Army War College, February 2, 2010) 38.

<sup>43</sup> Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, "Directive-Type Memorandum (DTM) 09-027 – Implementation of the Weapons Systems Acquisition Reform Act of 2009," December 4, 2009.

<sup>44</sup> Bill Kobren, "The Product Support Manager: Achieving Success in Executing Life Cycle Management Responsibilities," *Defense AR Journal*, 17.2 (April 2010): 183.